

USER'S MANUAL

*TurboCharger Analyser  
Compact*

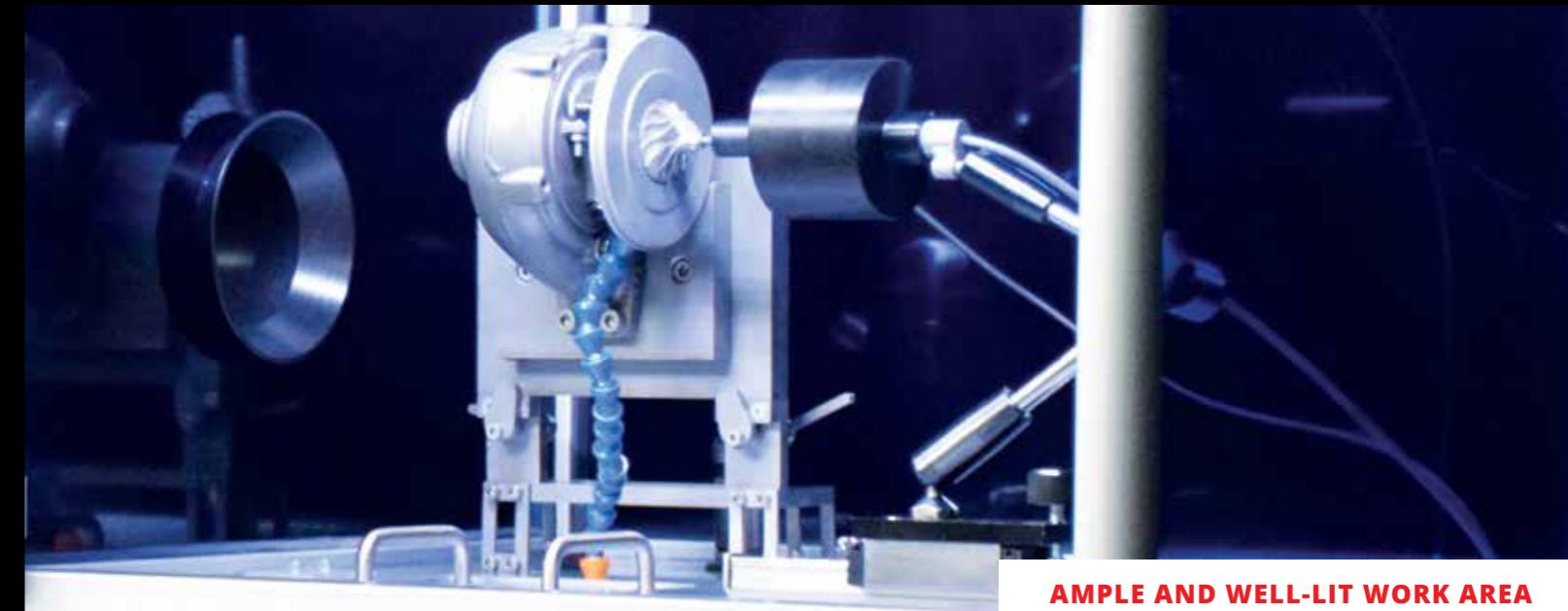




USE OF THE ORIGINAL EXHAUST (TURBINE HOUSINGS) FOR BEST TEST SIMULATION



SIMPLE TO WORK WITH TO REDUCE THE TESTING TIME

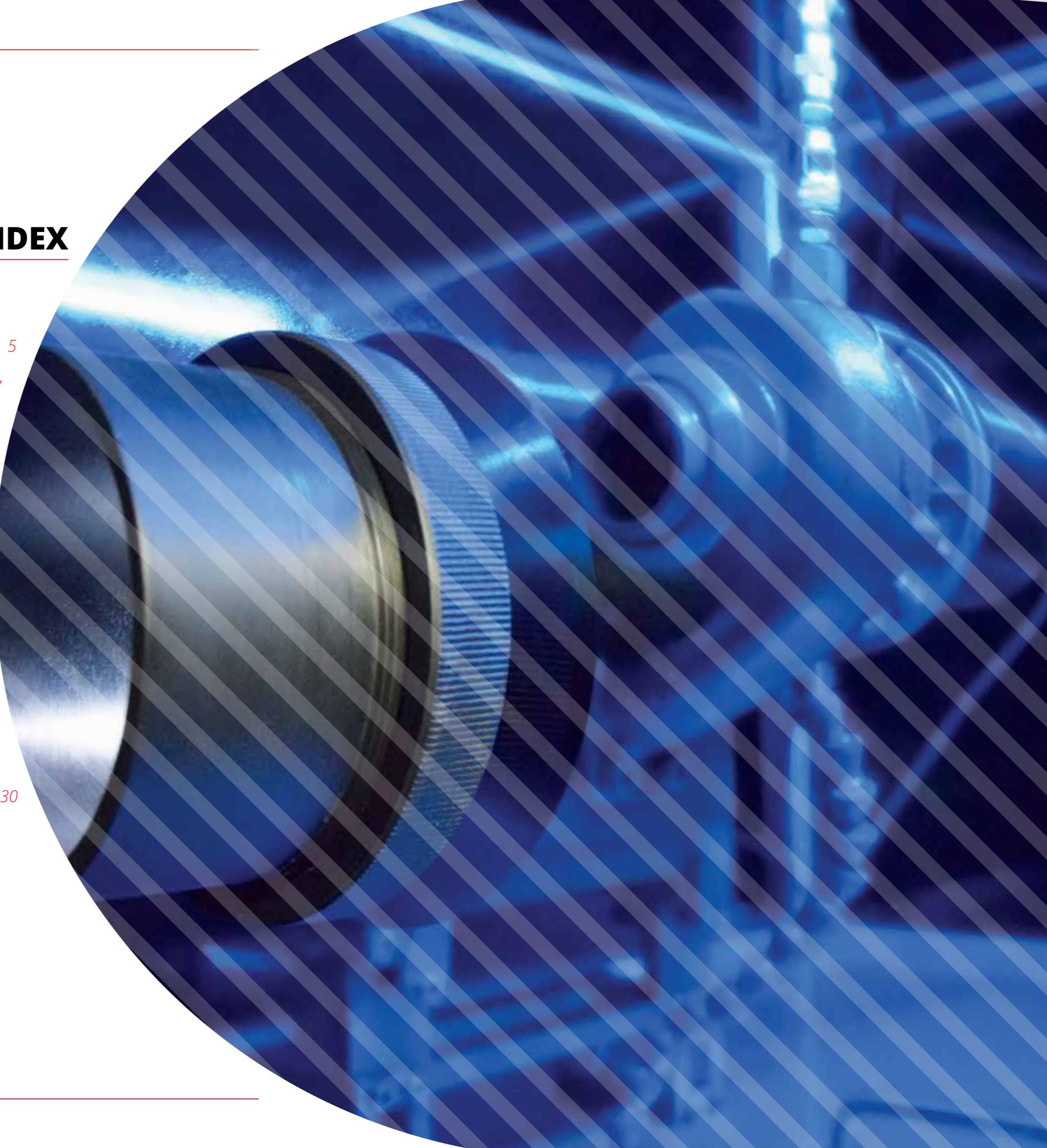


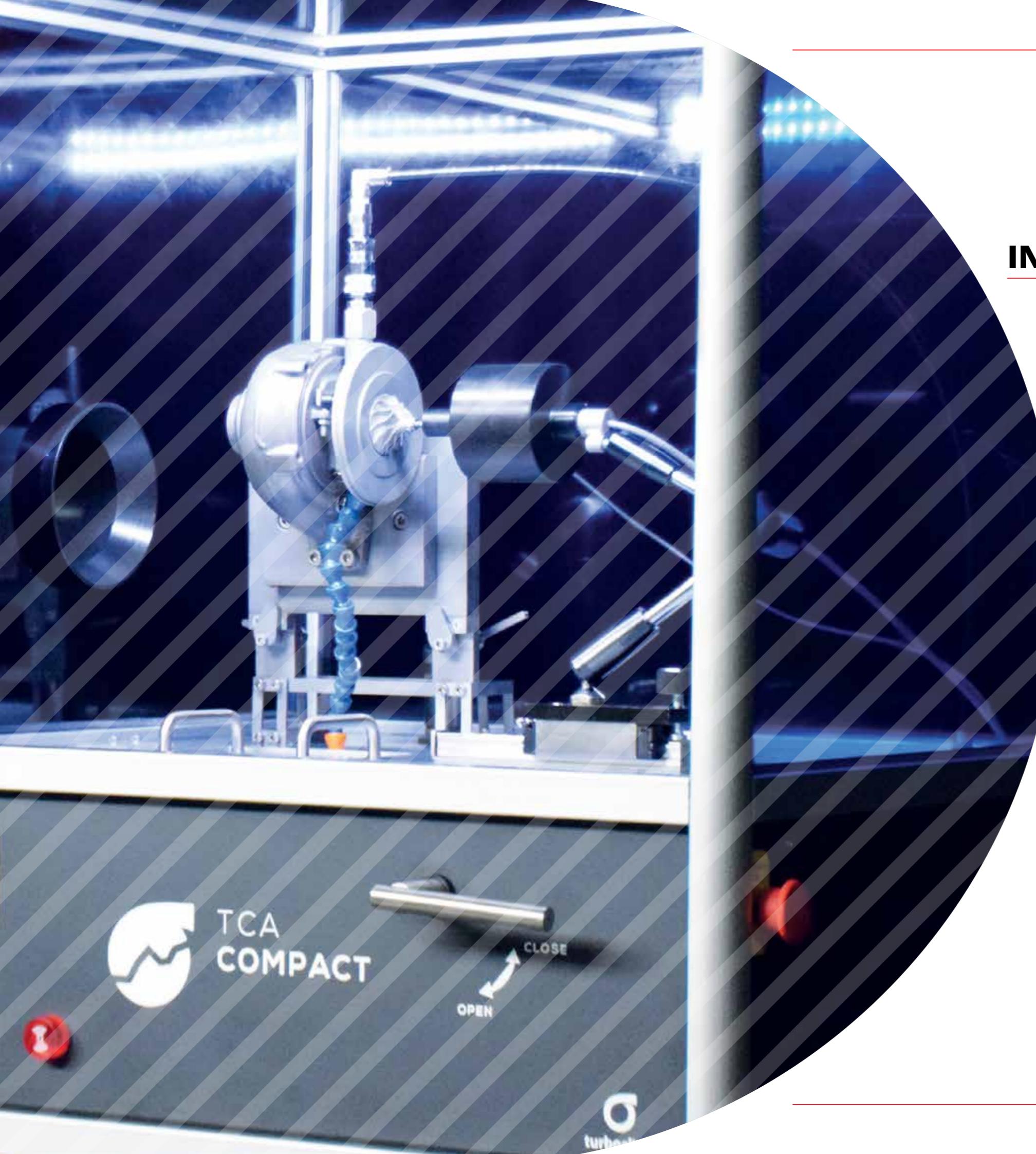
AMPLE AND WELL-LIT WORK AREA

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## INTRODUCTION

TurboClinic's **TCA Compact** is the **first bench top balancing turbochargers equipment in the world**. Like all TurboClinic's equipment, it benefits from **innovative** and **modern design**, **technological innovation** and **simplicity of operation**.

Created using the same **balancing principles as the TCA Pro v2**, the **TCA Compact** analyses the balance of the turbochargers and allows them to **work with standard values again**.

The **TCA Compact** is a **precise** and **reliable balancing equipment** with the **same data acquisition system and software**<sup>(\*)</sup> as the **TCA Pro v2**. It has the **most advanced software** on the market, **exclusive design** and it was **fully developed by our team**.

The **TCA Compact** fulfills the essential needs of its users in a **smaller and lighter format**.

(\*) It requires the use of a computer to run the equipment's software.



## THIS BOX CONTAINS

- 1 TCA Compact
- 7 Oil adaptors
- 1 Magnet
- 1 Base flange
- 1 Air grinder
- 1 USB cable
- 1 Power supply cable
- 1 Pen drive with the software (\*)

(\*) It requires the use of a computer to run the equipment's software.

## CHARACTERISTICS

- Single power ON/OFF button;
- Ergonomic design for user comfort;
- Ample and well-lit work area  
(*low consumption LED lighting*);
- Intuitive graphical interface;
- Test speeds over 300.000 RPM;
- Accuracy of 0,005 G;
- Simple to work with to reduce the testing time;
- Use of the original exhaust (*turbine housings*) for best test simulation;
- Oil temperature automatically controlled;
- Oil tank: 7 liters;
- Generate reports;
- Ready to test the last generation turbochargers;
- USB connection;
- Compact size.

## TECHNICAL REQUIREMENTS

- \\\\ Compressed Air Network (*between 8 and 10 BAR*);
- \\\\ 300 Liters compressed air tank (*minimum*) linked directly to the machine by 1" hose (*maximum distance recommended - 2m*);
- \\\\ Power Supply 230V - 50Hz, 1500 WATTS.

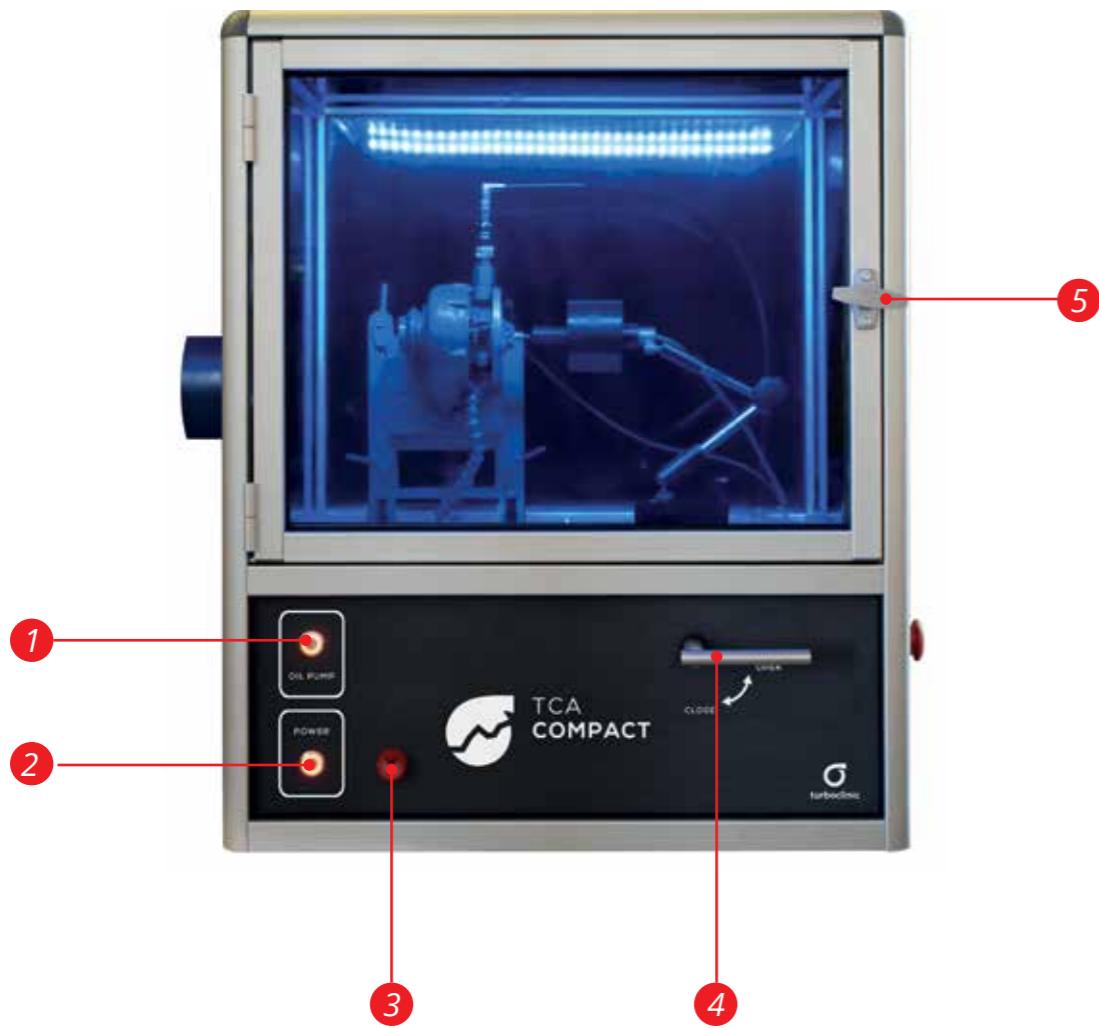
## MAINTENANCE

- \\\\ Pay attention to the oil conditions;
- \\\\ Replace the oil and the oil filter at least once a year.

## DIAGRAM

### TCA Compact \\ Front

- 1\\ Oil Pump Button
- 2\\ ON/OFF Button
- 3\\ Warning Light and Buzzer Alarm  
(if activated, there will be an informative pop-up on the screen)
- 4\\ Air Control Valve
- 5\\ Door Lock



### TCA Compact \\ Right Side

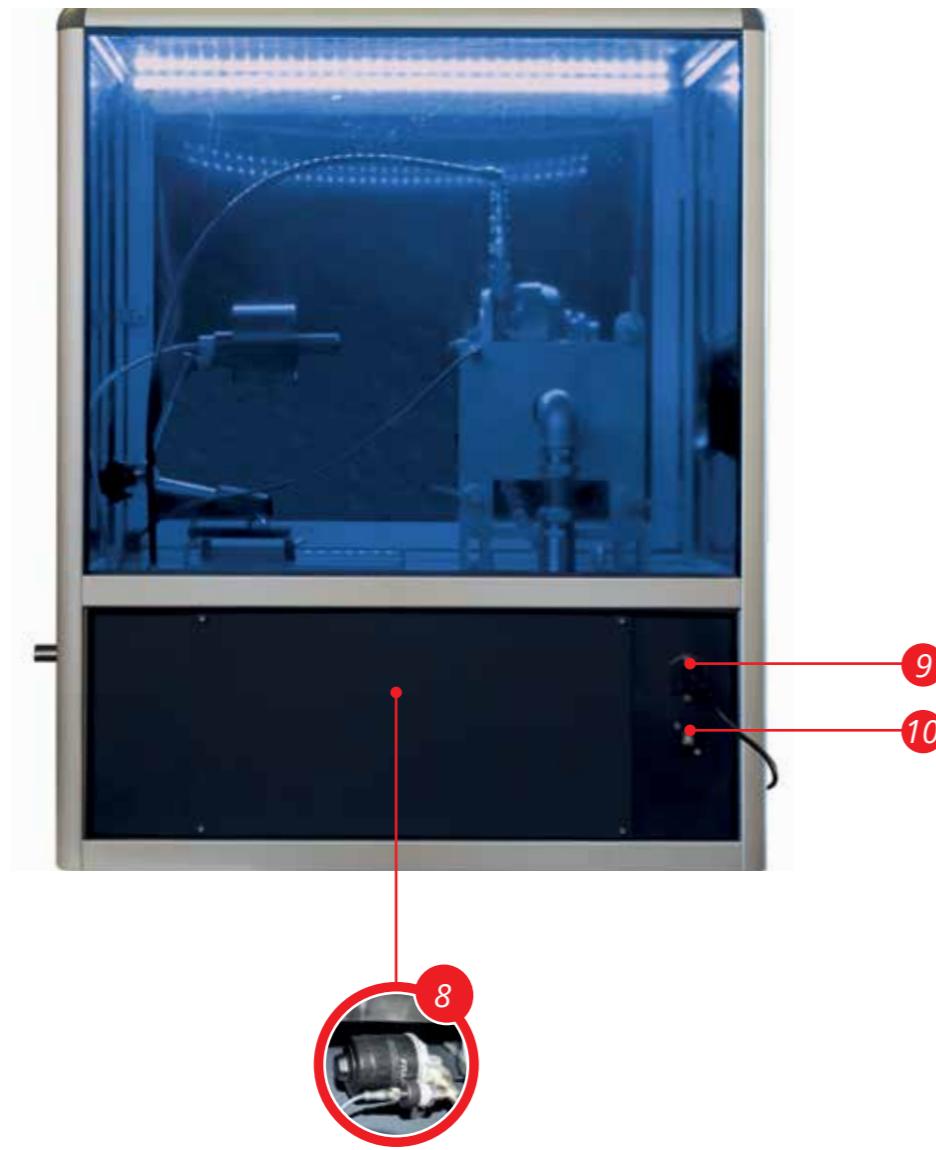
- 6\\ Emergency Stop Button
- 7\\ Air Inlet



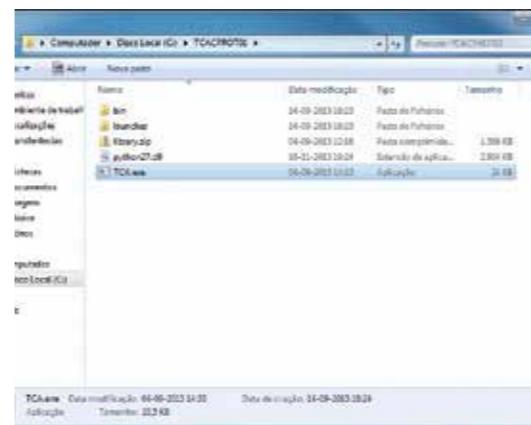
## SOFTWARE RUN

### TCA Compact \\ Back

- 8\ Oil filter inside
- 9\ Plug to connect power supply cable to the 230V~50Hz
- 10\ Plug to USB connection



- 1\ Connect the Pen drive with the software to the computer;



- 2\ Execute TCA.exe to open the software.

## START UP/SHUT DOWN



1\ Air connection;



2\ Electrical connection;



3\ USB connection;



4\ Emergency stop button:

\ Check if the Emergency Stop button is disarmed by turning it to the right;



5\ To switch ON the TCA Compact press the ON/OFF button *just once*;



6\ To switch OFF the TCA Compact press the ON/OFF button *just once*;

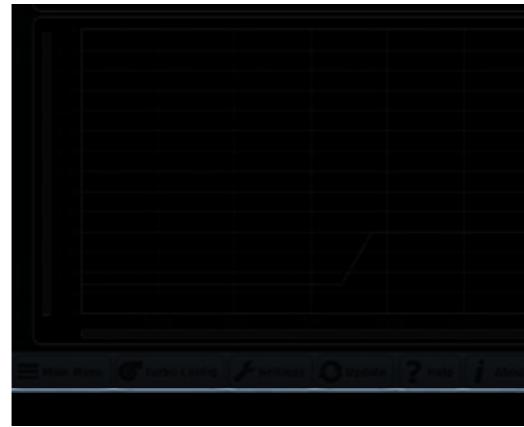
## START UP/SHUT DOWN



7\ Use the USB cable to connect the TCA Compact to the computer\*.

\* Computer not included

## TOOLBAR

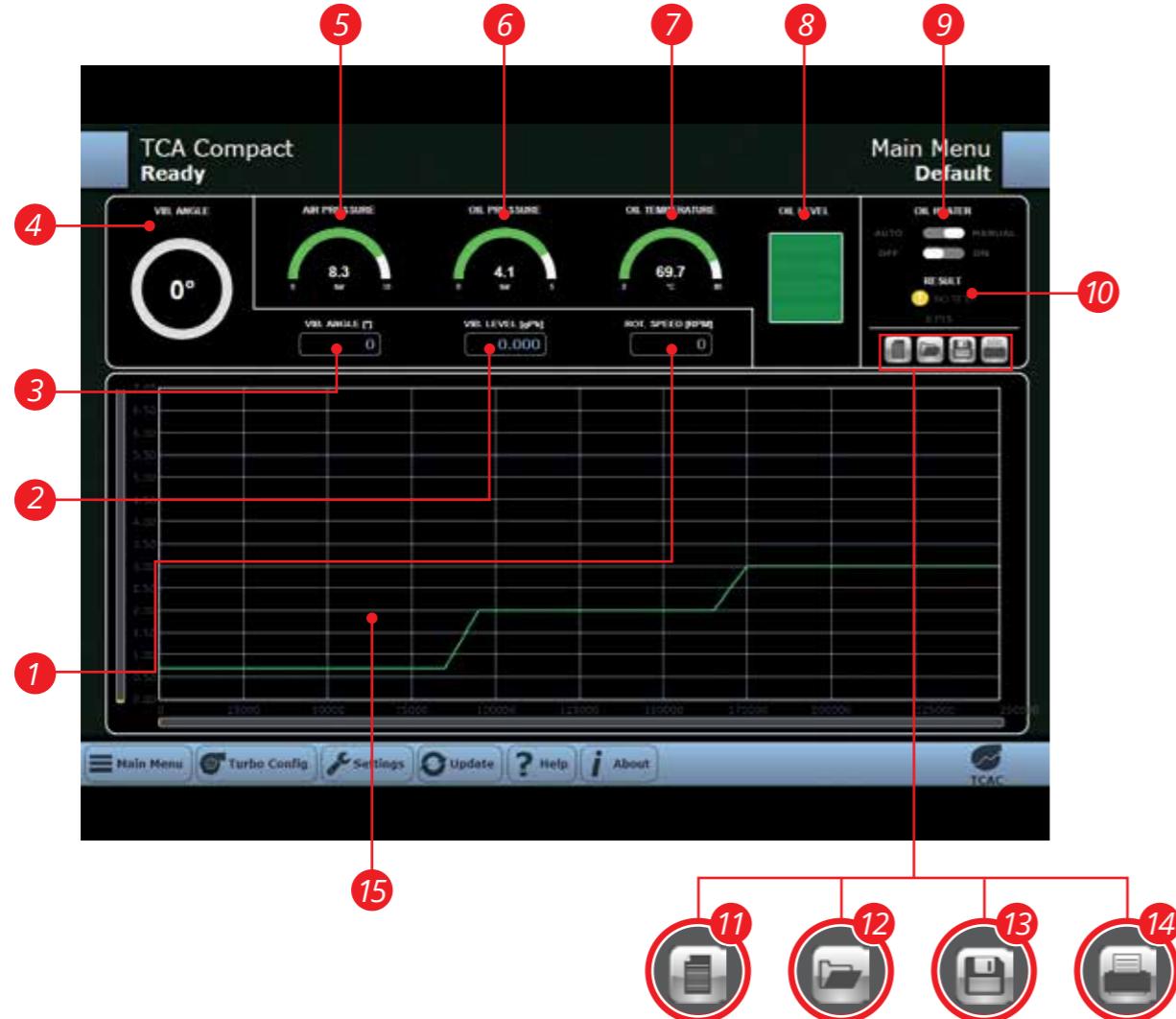


1\ Toolbar;



2\ "Main Menu":

## TOOLBAR



- 1\ Rotation speed
- 2\ Vibration level
- 3\ Vibration angle
- 4\ Vibration angle
- 5\ Air pressure
- 6\ Oil pressure
- 7\ Oil temperature
- 8\ Oil level
- 9\ Oil heater control
- 10\ Test control (pass/fail)
- 11\ New test
- 12\ Open test
- 13\ Save test
- 14\ Print test report
- 15\ Test graphic



3\ "Turbo Config":

- \ Set different values of maximum vibration according to the rotation;



4\ "Settings":

- \ Select language;
- \ Set warnings;
- \ Set vibration scale;
- \ Reporting destination email;



5\ "Help":

- \ Send an e-mail to the support team;

## TOOLBAR



6\ "About".

## TURBO ASSEMBLY



1\ Core assembly:



1.1\ Use the Base Flange to place the turbine housing;



1.2\ Screw the turbine housing to the base flange;

## TURBO ASSEMBLY



1.3\ Place the core in the turbine housing;



1.4\ Mount the oil inlet adapter;



1.5\ Core assembly complete.



2\ Mount the core on the TCA Compact:



2.1\ Fix the base flange to the TCA Compact's base;



2.2\ Oil return (*magnetically coupled*).

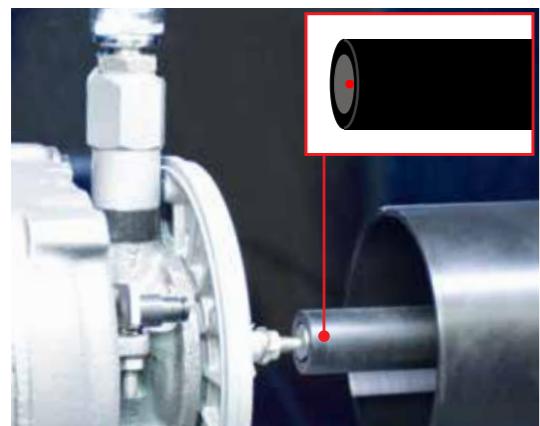
## TURBO ASSEMBLY



3\ Connect the oil supply to the core;



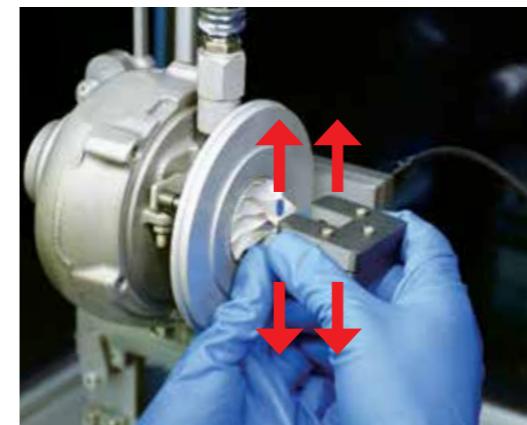
4\ Sensor emplacement:



4.1\ Point the shaft to the right of the sensor as shown in the image with a distance of 1 to 2mm between them.



5\ Mark the zero point on the compressor wheel:



5.1\ Magnetise the bolt (*move it up and down*).



6\ Place the protection cup (*when the protection cup is used it must be leaning against the core plate to prevent damaging the core and the sensor*).

## TEST



- 1\ To perform the test:
  - 1.1\ Turn on the oil pump on;



- 1.2\ Open the air supply to make the turbo spinning.



- 2\ Test results:
  - 2.1\ Test fail;



- 2.3\ Correct the balance;

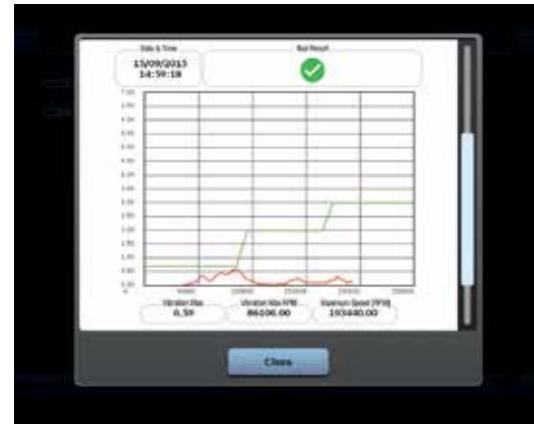


- 2.4\ Test ok.

## REPORTS



1\ "Main menu";



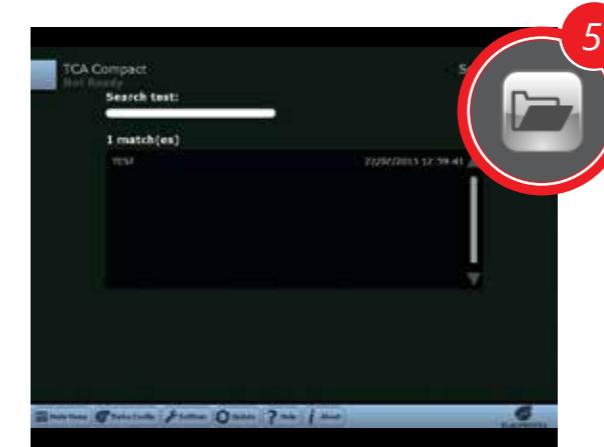
2\ "Preview report";



3\ "Print test report";



4\ "Save test";



5\ "Open test".



## NOTES



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*REV. 1.0 / 2015*

